

REMARKS

This Application has been carefully reviewed in light of the Final Office Action dated September 8, 2009 ("*Office Action*"). In the Office Action, Claims 1-20 are pending and rejected. Applicants have amended Claims 1, 3-5, 7, 8, and 10-12. Applicants submit that no new matter is added by these amendments. Applicants respectfully request reconsideration and favorable action in this case.

Claim Objections

The *Office Action* rejects Claims 1 and 4 due to informalities. Applicants have amended Claims 1 and 4 to address the issues identified by the Examiner. Applicants respectfully request that the objections to Claims 1 and 4 be withdrawn.

Section 112 Rejections

The *Office Action* rejects Claims 4 and 8 under 35 U.S.C. 112. First, the Examiner states that "it is unclear as to how the second object comprises a child object of the first object, since the second object is a child object of the first object." (*Office Action*, page 3). Second, the Examiner states that "it is unclear as to how the third object relates to the first object." (*Office Action*, page 3). While Applicants continue to disagree with the Examiner's finding that the claim elements of Applicants' Claims 4 and 8 are unclear, Applicants have again amended the claim language to further clarify the elements of Claims 4 and 8. Applicants submit that the amendments address the Examiner's objections by clarifying that "the plurality of objects compris[e] at least one parent object, at least a first child object, and at least a second child object" and that "a 'one-to-one' relationship" is identified "between the first child object and the second child object."

Third, the Examiner again states that "the specification teaches flattening by moving contents into a parent portion and not a child portion (paragraph 134 of the PG-Pub)." (*Office Action*, page 3). While the cited portion of Applicants' Specification does indeed disclose that "[p]referably, the contents of the Relationship Object are promoted to the Parent" (*Specification*, paragraph 134), the cited portion is only one example embodiment of "flattening/merging." With regard to Figures 16 and 17, the Specification states that a "child object can be promoted." (*Specification*, paragraph 137). Whereas Figure 16 illustrates "schematically a representation of a UDDI relationship diagram," Figure 17 illustrates "the

Directory hierarchy has been formed by a flattening of the UDDI objects.” (*Specification*, paragraph 135). The result of the flattening is such that “[t]he Parent Object 171 has contents A1, A2, An” and a Child Object 9n has “contents B1, B2, Bn, C1, C2 and Cn.” (*Specification*, paragraph 137). Thus, Applicants *Specification* clearly discloses that a child object can be promoted to another child object. Applicants’ amended claim language reciting that “moving a content of the first child object into the second child object” is not indefinite.

For at least these reasons, Applicants respectfully request that these rejections under 35 U.S.C. §112 be withdrawn and the claims allowed.

Section 102 Rejections

The Office Action rejects Claims 1-3, 5-7, and 13-20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0039738 issued to Cutlip (“*Cutlip*”). Additionally, the Office Action rejects Claims 1-3 and 5-7 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0002955 issued to Gadbois et al. (“*Gadbois*”). Applicants respectfully request reconsideration for the reasons discussed below.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added); M.P.E.P. ch. 2131. “The ***identical invention*** must be shown in as ***complete detail as contained*** in the . . . claim .” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989) (emphasis added); see also M.P.E.P. ch. 2131. In addition, “[t]he elements must be arranged as required by the claim.” *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); M.P.E.P. ch. 2131.

The Federal Circuit recently clarified this standard in *Net Moneyin, Inc. v. Verisign, Inc.*, 2008 WL 4614511 (Fed. Cir. 2008). In *Net Moneyin*, the Federal Circuit held that a finding of anticipation under 35 U.S.C. § 102 is proper only when a “reference discloses within the four corners of the document not only all of the limitations claimed but also ***all of the limitations arranged or combined in the same way*** as recited in the claim.” *Net Moneyin* at *10 (emphasis added). The prior art reference must “***clearly and unequivocally*** disclose the claimed invention ... ***without any need for picking, choosing, and combining various***

disclosures not directly related to each other by the teachings of the cited reference.” Id. (emphasis added, internal typographical notations omitted).

Independent Claim 1 of the present Application, as amended, recites:

A method for use in a Web Services system having complex UDDI object(s), the method comprising:

providing a database for storing at least one directory parent object within a first object class, the at least one directory parent object including a plurality of attributes, the at least one directory parent object comprising at least one unique attribute that occurs only once in the at least one directory parent object and a repeating attribute that occurs more than once in the at least one directory parent object;

using a processor in communication with the database to create a first directory child object for storing a first value associated with the repeating attribute, the first directory child object also within the first object class;

using the processor to remove the repeating attribute from the at least one directory parent object such that the at least one directory parent object comprises only unique attributes; and

storing, in the database, the value associated with the repeating attribute in the first directory child object.

Neither *Cutlip* nor *Gadbois* disclose, either expressly or inherently, each and every element of the claims.

For example, *Cutlip* does not disclose, teach, or suggest “storing at least one directory parent object within a first object class, the at least one directory parent object including a plurality of attributes, the at least one directory parent object comprising at least one unique attribute that occurs only once in the at least one directory parent object and a repeating attribute that occurs more than once in the at least one directory parent object” and “using a processor in communication with the database to create a first directory child object for storing a first value associated with the repeating attribute, the first directory child object also within the first object class,” as recited in Claim 1. Additionally, *Cutlip* does not disclose, teach, or suggest “using the processor to remove the repeating attribute from the at least one directory parent object such that the at least one directory parent object comprises only unique attributes,” as recited in Claim 1. Rather, *Cutlip* merely discloses that a “UDDI registry specification defines several core data type structures, including “businessEntity”, “businessService”, “bindingTemplate”, and “tModel.”” (*Cutlip*, Page 3, paragraph 40). “A particular businessEntity instance may offer (i.e., publish) a number of business services in

the registry, where each service is identified using an instance of the businessService data type 210.” (*Cutlip*, Page 3, paragraph 40). “Each businessService instance [210] has an instance of bindingTemplate data type 220” and that “[a]n instance of bindingTemplate may reference on or more instances of tModel data type 230.” (*Cutlip*, Page 3, paragraph 40). Thus, *Cutlip* discloses a hierarchical arrangement such as that illustrated in Figure 2) that includes businessEntity, businessService, binding Template, and tModel arranged under a businessEntity. Figure 3 “is a Unified Modeling Language (“UML”) diagram” providing “a precise [textual] description of the relationship between” these items. (*Cutlip*, Page 3, paragraph 42). For example, “BusinessEntity 320 has a list of URLs that may be used to provide more information . . . ; a list of company contacts 310; and a list of registered business services 330 offered by the company.” (*Cutlip*, Page 3, paragraph 42). There is no disclosure in *Cutlip* that the businessEntity or any other object includes “at least one unique attribute that occurs only once in the at least one directory parent object and a repeating attribute that occurs more than once in the at least one directory parent objects,” as recited in Claim 1. Additionally, there is no disclosure in *Cutlip* of “using a processor in communication with the database to create a first directory child object for storing a first value associated with the repeating attribute, the first directory child object also within the first object class,” as recited in Claim 1. Further, Applicants submit that there is no disclosure of object classes within *Cutlip* or that the parent and child objects are both within the first object class. Additionally, because there is no disclosure of removing attributes from a parent object, *Cutlip* does not disclose, teach, or suggest “using the processor to remove the repeating attribute from the at least one directory parent object such that the at least one directory parent object comprises only unique attributes,” as recited in Claim 1.

Gadbois also does not disclose the recited claim elements. While *Gadbois* discloses a UDDI registry, *Gadbois* merely discloses that a root node “is maintained by the host system . . . and is represented by a Host node 210.” (*Gadbois*, Page 2, paragraphs 21 and 27). “A first tier or set of interior nodes coupled to the host node include a set of nodes representative of organizations.” (*Gadbois*, Page 3, paragraph 27). “For example, an Organization1 is represented at node 22, and Organization2 is represented at node 224.” (*Gadbois*, page 3, paragraph 27). “Each organization node is typically coupled to a number of interior sub-nodes which contain further information, or links to further information, regarding the

respective organization.” (*Gadbois*, page 3, paragraph 28). Thus, *Gadbois* merely discloses a hierarchical structure in which each organization is represented by a node and includes sub-nodes for further information. There is no disclosure in *Gadbois* that an organization node (or any other node) includes “at least one unique attribute that occurs only once in the at least one directory parent object and a repeating attribute that occurs more than once in the at least one directory parent objects,” as recited in Claim 1. Additionally, there is no disclosure in *Gadbois* of “using a processor in communication with the database to create a first directory child object for storing a first value associated with the repeating attribute, the first directory child object also within the first object class,” as recited in Claim 1. Further, Applicants submit that there is no disclosure of object classes within *Gadbois* or that the parent and child objects are both within the first object class. Additionally, because there is no disclosure of removing attributes from a parent object, *Gadbois* does not disclose, teach, or suggest “using the processor to remove the repeating attribute from the at least one directory parent object such that the at least one directory parent object comprises only unique attributes,” as recited in Claim 1.

For at least these reasons, Applicants respectfully request reconsideration and allowance of independent Claim 1, together with Claims 2-3 that depend on Claim 1. For analogous reasons, Applicants respectfully request reconsideration and allowance of independent Claim 5, together with Claims 6-7 that depend on Claim 5.

Section 103 Rejections

The Office Action rejects Claims 4 and 8 under 35 U.S.C. §103(a) as being unpatentable *Gadbois* in view of U.S. Patent No. 6,947,951 issued to Gill (“*Gill*”). Applicants respectfully request reconsideration for the reasons discussed below.

Independent Claim 4 of the present Application, as amended, recites:

A computer-implemented method of flattening a hierarchy in a Web Services arrangement, the method comprising:

providing a database for storing a hierarchical structure of a plurality of UDDI objects, the plurality of objects comprising at least one parent object, at least a first child object, and at least a second child object;
using a processor in communication with the database to identify a ‘one-to-one’ relationship between the first child object and the second child object; and

using the processor to remove a portion of the hierarchical structure having the 'one-to-one' relationship by moving a content of the first child object into the second child object.

Neither *Gadbois* nor *Gill* disclose, either expressly or inherently, each and every element of Claim 4.

For example, the proposed *Gadbois-Gill* combination does not disclose, teach, or suggest "using a processor in communication with the database to identify a 'one-to-one' relationship between the first child object and the second child object" and "using the processor to remove a portion of the hierarchical structure having the 'one-to-one' relationship by moving a content of the first child object into the second child object," as recited in Applicants' amended Claim 4. In the *Office Action*, the Examiner relies upon *Gadbois* for disclosure of moving content of the second object to a third object but acknowledges that *Gadbois* does not disclose identifying the one-to-one relationship and moving that portion of content from the second object to the third object. (*Office Action*, page 7). Instead, the Examiner relies upon *Gill*. Applicants respectfully disagree for the following reasons.

Gadbois merely discloses "a root node" is represented by "Host node 210" and "a first tier or set of interior nodes" that are representative of organizations. (*Gadbois*, paragraph 27). According to *Gadbois*, "each organizational node is typically coupled to a number of interior sub-nodes which contain further information, or links to further information, regarding the respective organization." (*Gadbois*, paragraph 28). Thus, at most, *Gadbois* discloses a hierarchical structure that includes a root node at the highest level, a set of interior nodes beneath the root node, and a set of sub-nodes beneath the interior nodes and at the lowest level. However, while *Gadbois* discloses the described structure, there is no disclosure of moving content from a child object to another child object. Specifically, even if the root node comprises a parent node, there is no disclosure in *Gadbois* of moving the content of an interior node to another interior node. Likewise, there is no disclosure of moving the content of a sub-node to another interior sub-node. As such, *Gadbois* discloses neither the step of "using a processor in communication with the database to identify a 'one-to-one' relationship between the first child object and the second child object" nor the step of "using the processor to remove a portion of the hierarchical structure having the 'one-to-one'

relationship by moving a content of the first child object into the second child object,” as recited in Applicants’ amended Claim 4.

Gill does not cure the deficiencies of *Gadbois*. Rather, *Gill* merely discloses a hierarchy 14 that “includes two or more levels 16.” (*Gill*, column 3, lines 59-60). According to *Gill*, “[a] lineage relationship 17 exists between the levels in the hierarchy 14, wherein the hierarchy 14 has tree-like structure based on a one-to-many relationship.” (*Gill*, column 3, lines 60-63). Two different hierarchies can be cross-linked wherein “the cross-link relationship 20 may represent a many-to-many relationship.” (*Gill*, column 3, line 65 through column 4, line 5). Thus, at most, *Gill* discloses a one-to-many relationship between the levels in a hierarchy and a many-to-many relationship between two different hierarchies. *Gill* does not disclose, teach, or suggest “using a processor in communication with the database to identify a **‘one-to-one’ relationship between the first child object and the second child object**,” as recited in Claim 4. Accordingly, neither *Gadbois* nor *Gill* nor their proposed combination disclose Applicants’ step of “using a processor in communication with the database to identify a ‘one-to-one’ relationship between the first child object and the second child object,” as recited in Applicants’ Claim 4.

Furthermore, cited portions of *Gill* only disclose the steps for inserting or removing a level. (*Gill*, column 5, lines 41-52). For example, *Gill* describes “a new Level (not shown) for Area can be introduced between Region and District.” (*Gill*, column 5 lines 41-43). “This requires adjustment of parentage level number for all state members (which are at level 5 now).” (*Gill*, column 5, lines 47-48). In the described example, when a new level is inserted between levels 2 and 3, those items at level 4 are now at level 5. *Gill* further disclose that when a “level is removed from the hierarchy 200 then child members need to be reassigned to the original grandparent member.” (*Gill*, column 5, lines 48-52). Thus, if level 3 is removed from the hierarchy depicted in Figure 2 of *Gill*, each state in level 4 would be directly assigned to the grandparent “Central 214.” As such, Applicants respectfully submit that *Gill* provides instructions for removing and/or adding an entire level. *Gill* does not disclose, teach, or suggest moving the content of a child object into another child object. More specifically, *Gill* does not disclose, teach, or suggest “using the processor to remove a portion of the hierarchical structure having the ‘one-to-one’ relationship by **moving a content of the first child object into the second child object**,” as recited in Claim 4. Accordingly, because

neither *Gadbois* nor *Gill* (nor their proposed combination) disclose Applicants' recited claim language, Applicants' claim is allowable over the proposed *Gadbois-Gill* combination.

For at least these reasons, Applicants respectfully request reconsideration and allowance of independent Claims 4 and 8.

CONCLUSION

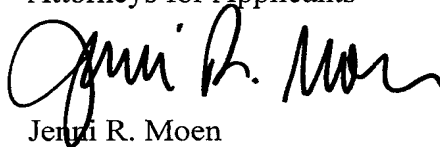
Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other apparent reasons, Applicants respectfully request full allowance of all pending Claims.

If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicants stands ready to conduct such a conference at the convenience of the Examiner.

Applicants believe no fee is due. However, should there be a fee discrepancy, the Commissioner is hereby authorized to charge any required fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Jenni R. Moen", is written over the printed name.

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